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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,468	08/16/2001	Juuro Aoyagi	4296-105.1 US	2999

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PRINCETON, NJ 08540

EXAMINER

TRAN, SUSAN T

ART UNIT	PAPER NUMBER
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1615

DATE MAILED: 12/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/931,468

Applicant(s)

AOYAGI ET AL.

Examiner

Susan T. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,6-11 and 13-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6-11 and 13-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Receipt is acknowledged of applicant's Request for Continued Examination, Amendment, and Information Disclosure Statement filed 10/01/03.

#### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/01/03 has been entered.

#### ***Response to Amendment***

The amendment filed 10/01/03 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is the term "gel-formable". The term "gel-like" is understood to the ordinary skill in the art of the conventional meaning, and therefore, it is suggested that this term be reinstated.

Applicant is required to cancel the new matter in the reply to this Office Action.

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***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 6-11, and 13-19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. It appears that applicant's specification does not provide support for the limitation "changing a mixed aqueous solution of an active carbon and a gel-formable substance into a gel". Further clarification is requested.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6-11, and 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi US Re. 31,700.

Yamaguchi teaches granular algal adsorbents useful for the removal of toxic and odiferous materials in cigarette filters (see abstract). The adsorbents comprise mixture of alga powder and inorganic porous adsorbent, such as, silica gel or activated charcoal (abstract). Yamaguchi is silent as to the teaching of a mixture of the adsorbent materials. However, Yamaguchi teaches that it is preferable to use algae together with any of the adsorbents or with a proper combination of them (column 5, lines 18-20), it is the position of the examiner that it would have been obvious for one of ordinary skill in the art to, by routine experimentation select mixture of adsorbents, namely activated charcoal and gel-like substance to improve the ability of adsorption.

Claims 1, 6-11, and 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hara JP 61-216044 and Ochi JP 61-48614, in view of Unger et al. WO 93/12877 and Muhfeld et al. US 5,972,427.

Hara teaches formed hydrophobic konjak gel useful as absorbent film, waterproof paper, or material for seasoning (pages 2-4, and tables on page 14). Hara is silent as to the teaching of the konjak gel coating an adsorbent material. However, Hara teaches that the konjak gel can be made in sheet, and used as absorbent film.

Ochi teaches particles of adsorbent agent to adsorb fatty acid and cholesterol formed by digestion in digestive organ, where the adsorbent agent is coated with film forming material. It would have been obvious for one of ordinary skill in the art to use the konjak gel film as a coating material for Ochi's adsorbent agent, because the references teach the advantageous results over the use of gel-forming material useful in

pharmaceutical and food arts. The expected result would be an adsorbent particle containing gel coating film useful as food grade and nonfood grade substances.

Hara and Ochi are relied upon for the reason stated above. The references are silent as to the teachings of adsorbent agent, and polymer film forming.

Unger teaches adsorbent material coating with gel-forming polymer useful to remove substances from fluid stream (pages 3-4, 11-13, 18). Unger does not teach activated carbon as an adsorbent agent.

Muhlfeld teaches adsorbent particles comprising activated carbon, silica gel, or charcoal as sorption mean (column 5). Hence, it would have been obvious for one of ordinary skill in the art to use activated carbon or charcoal as an adsorbent agent in view of the teaching of Muhlfeld, and polymer film-forming of Unger, because the references teach the advantageous results over the use of gel-forming material as an adsorbent mean to remove unwanted substances useful in pharmaceutical and food arts. The expected result would be an adsorbent particle containing gel coating film useful as food grade and nonfood grade substances.

### ***Response to Arguments***

Applicant's arguments filed 10/01/03 have been fully considered but they are not persuasive.

Applicant argues that Hara does not teach or suggest an adsorbent formed by the steps of changing a mixture of an aqueous solution of active carbon and a gel-formable substance into a gel. Rather, the konjak gel of Hara requires simultaneous addition of food fibers and other substances to the pasty konjak derivative to assume

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the form of gel. Contrary to the applicant's argument, it is noted that applicants' claims are product-by-process claims, and therefore, determination of patentability is based on the product itself even though product-by-process claims are limited by and defined by the process. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Furthermore, when the claimed and prior art products are identical or substantially identical in structure or composition, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). Thus, the *prima facie* case can be rebutted by evidence showing that ***the prior art products do not necessarily possess the characteristics of the claimed product.*** *In re Best*, 562 F.2d at 1255, 195 USPQ at 433.

Applicant argues that if Ochi were to be combined with Hara, the teaching of Hara would suggest that the act of adding activated carbon would occur in conjunction with adding food fibers. However, the use of the transitional phrase "comprising of" in the generic claim does not exclude other component/substance, such as food fibers.

Applicant argues that the hydrophobic gel of Hara is incapable of manifesting a high ability to effect adsorption. However, applicant has not provide any data showing a side-by-side comparison of the ability to effect adsorption between the hydrophobic gel of Hara and the claimed invention.

Applicant argues that neither Unger nor Muhlfeld teach an adsorbent formed by coating an adsorption basis with a gel substance and subsequently subjecting the coated basis to a freezing treatment. In response to applicant's argument, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Unger is relied upon solely for the teaching of an adsorbent material coated with gel-forming polymer useful to remove substances from fluid stream; Muhlfeld is relied upon solely for the teaching of the adsorbent materials, including activated carbon, silica gel, or charcoal. Thus, it is the position of the examiner that it would have been obvious for one of ordinary skill in the art to combine the teachings of Hara, Ochi, Unger, and Muhlfeld to obtain at least similar result.

Applicant argument regarding the minute particles of powdered active carbon permits highly efficient removal by adsorption of a harmful substance because active carbon is put in a highly dispersed state and the adsorbent in its entirety enjoys an increase in the surface area available for adsorption and a consequent increase in the ability of effect adsorption as compared with the adsorbent produced by solely using active carbon; as well as the argument regarding to the adsorption basis coated with the gel substance, which can be directly ingested into the digestive system are not



persuasive, because the features upon which applicant argues are not recited in the rejected claims.

***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan T. Tran whose telephone number is (703) 306-5816. The examiner can normally be reached on Monday through Thursday from 6:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K. Page, can be reached at (703) 308-2927. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

THURMAN K. PAGE  
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